

Claims

What is claimed is:

- 5 1. An apparatus comprising:
 a first die having channel and controller functions; and
 a second die having a buffer function, wherein the first and second
 dies are packaged together in the single package and the pins of the single
 package connect to the first die and the second die.
- 10 2. The drive of claim 1, wherein the buffer device comprises a
 synchronous dynamic random access memory in a known good die format.
3. The drive of claim 1, wherein the single package is a thin quad flat
15 pack package.
4. The drive of claim 1, wherein the single package is a ball grid array
 package.
- 20 5. A computer system, comprising:
 a disc drive;
 a first die having a buffer function;
 a second die having a controller and channel function;
 wherein the first die is connected to the second die and wherein the
25 first die and second die are packaged in a single package.
6. The system of claim 5, wherein the buffer function comprises a
 synchronous dynamic random access memory in a known good die format.

7. The system of claim 5, wherein the single package is a thin quad flat pack package.
8. The system of claim 5, wherein the single package is a ball grid array
5 package.
9. The system of claim 5, wherein the single package is placed on a printed circuit board of the disc drive.
- 10 10. The system of claim 5, wherein the first die and the second die are connected by interconnects.
11. A method of making a disc drive for a computer system, comprising the steps of:
- 15 attaching a first die to a first area of a package;
attaching a second die to a second area of the package;
connecting the first die and second die with interconnects;
wherein the first die includes a buffer function for the disc drive;
and
- 20 wherein the second die includes a controller function and a channel function for the disc drive.
12. The method of claim 11, wherein the buffer function comprises a synchronous dynamic random access memory in a known good die format.
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13. The method of claim 11, wherein the package is a thin quad flat pack package.
14. The method of claim 11, wherein the package is a ball grid array
30 package.

15. The method of claim 11, wherein the package is placed on a printed circuit board of the disc drive.